Savannah River Site
Citizens Advisory Board

Recommendation # 289
Operating History, Safety and Environmental Studies Assessment

Background

Savannah River Site (SRS) has had a long history of production in support of the nation's nuclear weapons program. During the period 1953 through 1991 anywhere from one to five nuclear reactors at the SRS were engaged primarily in the production of plutonium and tritium. In addition to the production reactors, other aspects of the Site were also engaged in support activities such as nuclear fuel fabrication facilities, chemical reprocessing work, tritium separation facilities, supporting laboratory activities, etc. The Site has been engaged in nuclear activities that essentially represent the nuclear fuel cycle from start of the cycle to end of cycle including:

- nuclear fuel fabrication
- nuclear fuel irradiation
- nuclear fuel separations
- nuclear fuel radioactive waste processing for final disposition.

During this period of very intense nuclear activities, the Site has maintained an excellent safety and environmental management record. The Site has consistently been named the "safest plant in South Carolina", had the best safety record among the DOE sites, and has been cited for its excellent environmental programs. The Site has also never had an accidental nuclear criticality or a major nuclear accident. Much of this performance has been documented in many studies.

Beginning in the early 1990s, the Site moved from a production site to a "cleanup site." While some limited production activities occur at SRS, the majority of the Site activities are engaged in cleanup. The Site cleanup effort is likely to take about 40 years and the program is now nearing the midpoint of its overall effort. The SRS Citizens Advisory Board was established in 1994 to provide public input into the cleanup programs and priorities. Using 1994 as a starting time the Site is now 18 years into the approximately 40-year cleanup timeframe.

Discussion

The SRS is now in what the CAB considers to be an advanced state of cleanup and it may be useful at this time to reflect on what can be learned from these many years of operations. An in-depth impact assessment of radiation to worker and surrounding community population would likely be useful to the nation, the public at large, and the nuclear industry.

For example, off-site radioactive releases have been measured carefully and thoughtfully for large areas around the Site and downstream in the Savannah River and radiation

exposure impacts have been continually assessed on Site workers. The bigger question is now what does all this mean and what result did it have?

Now that a major nuclear production program of approximately 40 years has been completed and cleanup is now well-defined and underway it would be useful to make some summary conclusions on the impacts. For example:

- What was the impact of the low levels of radiation exposure to Site workers over this 40 year period?
- What was the impact of the low levels of off-site radiation to the surrounding communities?
- What was the impact of other environmental hazards to areas away from the Site?

The Site had done many studies during its history to answer just these types of questions. The CAB has been told that a number of epidemiological studies have been conducted to determine the impacts and for the most part these impacts have been minimal.

It is our view that it would be useful to publish some sort of report that summarizes these findings and conclusions. Further, we feel that it would be useful to involve other outside agencies or parties to add independence and credibility to the findings of such a report.

Recommendations:

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Assess existing studies and reports to determine:
    - What is the impact of the low levels of radiation exposure to Site workers over the Site's 40-year production period; including Department of Labor Bureau of Labor Statistics data on SRS worker compensation cases by year, beginning with the opening of the site and ending with the most current available data?
    - What is the impact of the low levels of off-site radiation to the surrounding communities?
    - What is the impact of other environmental hazards to the areas away from the Site?
2. Determine if any additional studies would be necessary to provide any additional useful information.
3. Develop a summary report which will list and summarize results and findings from the necessary supporting data.
4. Provide a list of definitive statements on the impacts of Site operations.
5. Involve other external parties in the preparation of such a summary report and the review of underlying supporting data.

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Sponsored by the Strategic & Legacy Management Committee